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Enseigner les compétences pour l'environnement en ligne

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Abstract

The goals of this study are to identify key competency areas that lead to success in online instruction and to develop a framework that supports professional development and self-assessment. To identify the key competency areas, skills and behaviours presented within current literature were analyzed. Secondly, gaps were identified and levels of competence were determined within each key competency area. The resulting analysis produced the Online Teaching Competency (OTC) Matrix including five competency areas: Community & Netiquette, Active Teaching/Facilitating, Instructional Design, Tools & Technology, and Leadership & Instruction. This leveled competency matrix can be used to inform professional development in the online teaching environment and is also a useful guide in the areas of self-assessment, portfolio design, and the development and evaluation of professional development opportunities.

Résumé

Cette étude a comme objectifs de cerner les principaux domaines de compétences qui mènent à la réussite de l'instruction en ligne et de développer un cadre qui soutient le développement professionnel et l'autoévaluation. Afin de cerner les principaux domaines de compétences, une analyse des aptitudes et comportements présentés dans les études actuelles a été réalisée. Deuxièmement, les écueils ont été cernés et les niveaux de compétence ont été déterminés au sein de chaque domaine de compétences. L'analyse qui en a résulté a généré la matrice des compétences de l'enseignement en ligne, comprenant cinq domaines de compétences : collectivité et nétiquette, enseignement actif/animation active, conception de l'instruction, outils et technologie, ainsi que leadership et instruction. Cette matrice graduée peut servir à façonner le développement professionnel dans un environnement d'enseignement en ligne. Elle sert aussi de guide pratique pour les domaines de l'auto-évaluation, de la conception de portfolio et du développement et de l'évaluation des occasions de développement professionnel.

Introduction

The purpose of this study is to review the existing literature on online teaching competencies, in order to derive a framework to guide faculty development for teaching in the online environment. There has been a rapid migration to online learning in recent decades, including the evolution of several modes of e-delivery, varying from blended learning formats to Massive Open Online Courses (Hill, 2012; Staker & Horn 2012). Technology adoption appears to be accelerating within industry as well as in academia (Dahlstrom & Bichsel, 2014; TNS Global, 2012). As a result, it has become increasingly necessary for faculty to put extra effort into professional development to keep up-to-date (Thomas, 2014). Internationally, institutions seek to determine best-practices and models that prepare new and existing faculty for teaching and facilitating in the digital environment (Stoltz-Loike, 2013; Thomas, 2014). The first task in reaching the goal of better prepared faculty is to define the features of a highly proficient online teacher. Competencies may provide a framework from which professional development can be developed and assessed (Carraccio, Wolfsthal, Englander, Ferentz, & Martin, 2002; Hoffman, 1999).

Competencies

Competency-based education (CBE) and assessment is not a new concept in teacher training and development. In the 1920s the *Commonwealth Teacher-Training Study* was conducted in the United States, in order to identify the activities and traits of a successful teacher. The goal of the study was to identify the specific duties teachers in training would be required to perform upon entry into the workforce, therefore providing a foundation for teacher education (Charters & Waples, 1929). Albanese (2008) argues that professional practice is heavily dependent upon the context of the workplace; as a result, the phrasing of general competencies must take that applied context into consideration. Given the applied nature of learning, another fundamental feature of CBE is that it provides flexibility in the pace of delivery, and encourages individualization of learning (Spady, 1977). Post-secondary faculty who engage in online teaching and learning generally fall within a spectrum of ability; this pertains not only to their abilities as an instructor, but also to working within the online context. As a framework for professional development, competencies provide the standards of performance within the context of the profession, and the flexibility needed to support learners at varying levels of proficiency.

CBE gained significant attention in the 1970s, and has continued to influence healthcare and skilled trades education well into the 21st century (Schilling & Koetting, 2010; Spady, 1977). Competencies can be defined as complex sets of behaviours that validate the ability of an individual (Carraccio et al., 2002; Hoffmann, 1999). Therefore, the job of a carpenter, a medical doctor or a professor can be described through general competencies containing knowledge, skills, attitudes and personal abilities. A feature that differentiates competencies from learning objectives or goals is the focus on the final product within the professional context. The focus of learning objectives is to produce goals for instructional processes and time spent in the classroom, whereas the focus of competencies is to address professional performance standards to be met within the workplace (Albanese, 2008).

Caraccio et al. (2002) identified four common steps for developing competency-based curriculum within the literature:

1. Competency identification,
2. determination of competency components and performance levels,
3. competency evaluation, and
4. overall assessment of the process.

The following literature review will explore steps one and two of the CBE curriculum development process, by reviewing published frameworks and standards of online teaching roles, knowledge, skills, attitudes and personal abilities. The goal of this paper is two-fold: First, to identify levelled competency areas as they pertain to online teaching and, second, to develop a framework that supports professional development and self-assessment for the online teaching environment.

Literature Review

The increasing use of online teaching and the emphasis on competency-based education led us to a review of literature that would help us to identify standard competency areas for online teaching. Relevant papers that define the roles, skills and best practices of the online instructor and facilitator were identified by searching for the terms “online teaching competencies”, “online instruction competencies”, “online instruction competencies”, "competences for online teaching", and "competence in online teaching" within article titles, keywords, and abstracts. Papers published between January 2000 and December 2014 were considered.

The literature search identified 203 articles, each of which was analyzed for relevance to the study. Papers were included if they specifically identified competencies, roles, knowledge or skills for the online instructor or facilitator. Papers were excluded if they only used the concept of competencies to track professional development or inform instructional strategies. Articles were excluded that were cited fewer than 50 times on the premise that they are not considered to be validated yet. Based on these criteria, six papers were included in our literature review.

Two of the papers are the basis for several CBE studies conducted within the last two decades. The first of these two is *Seven Principles of Good Teaching Practice* by Chickering and Gamson (1987), and the second is Smith’s *Fifty-One Competencies for Online Instruction* (2005). The seven principles identified by Chickering and Gamson were “intended as guidelines for faculty members, students, and administrators with support from state agencies and trustees - to improve teaching and learning” (p. 2). These principles encourage reflective practice and provide faculty with best practices that enhance active instruction. Smith’s subsequent publication of *Fifty-One Competencies for Online Instruction* “identifies and describes 51 competencies needed by online instructors and outlines an instructor-training program that satisfies 3 of the 24 benchmarks for excellence recommended by the Institute for Higher Education Policy” (p. 1). These two works have provided the foundation for several teaching competency studies, and the competencies they identified have been integrated into the data for this study.

Additional Papers Considered

To further address the specific role of the instructor in the online medium, other well cited papers on teaching and facilitating online were identified. The 1995 article, *The Role of the Online Instructor/Facilitator* by Berge (1995), describes "the roles and functions of the online instructor in computer conferencing" (p. 22). He argues that an emphasis on meaningful learning and higher order thinking is critical to instructional design. The integration of technology must be for the purpose of delivering "well designed learning goals and objectives" (p. 22). Berge concludes by defining four main competencies for online teaching, and describes each of their features: technical, social, managerial and pedagogical.

In 2000, an international working group of practitioners and researchers came together in the United Kingdom to explore online teaching. The group considered areas such as "how online instructors might be recruited, trained, assessed and certified" (Goodyear, Salmon, Spector, Steeples, & Tickner, 2001). The working group engaged in a two day workshop to define and discuss the role and significance of the online instructor and facilitator. The outcome was a list of eight roles filled by the online instructor: technologist, designer, manager/administrator, process facilitator, adviser/counsellor, assessor, researcher and content facilitator. In defining these roles, the working group took a competency-based approach to defining the skills and behaviours exhibited by effective online teachers.

From a social constructivist perspective, Anderson et al. identified the need for a tool to assess the teaching presence in online courses using computer conferencing. Teaching presence is defined by three categories or competency groups: design and organization, facilitating discourse, and direct instruction (Anderson et al., 2001). Their paper added details of facilitator presence in terms of skills and behaviours to this study.

Online teaching practices and competencies were recently reviewed and evaluated in the 2012 analysis *The Identification of Competencies for the Online Teaching Success* by Bigatel et al. (2012). This empirical study sought to identify faculty "perspectives on the most important teaching behaviours associated with successful online teaching" (p. 64). The study included 64 teaching tasks, which were correlated and rated to define seven main online teaching competencies. The Bigatel et al. study was excluded in the final analysis because it was not yet cited sufficiently to meet the criteria; however, the competencies assessed within the Bigatel et al. paper were based upon Smith's paper (2005). The Bigatel et al. paper identifies and categorizes the tasks and indicators for competency groups, and provides examples to assist faculty in assessing their contribution (participation and facilitation) to the online learning environment. We have been able to consolidate these skills and behaviours in our analysis of the 200 papers we retrieved and the competencies we reviewed.

Analysis

While Smith (2005) simply listed his fifty-one competencies without a clear grouping, other authors grouped them into broader roles or categories of competencies. The broader roles and competencies created five main categories: Community & netiquette, active teaching/facilitating, instructional design, tools & technology, and leadership and instruction. Figure 1 shows how our proposed online teaching competencies (OTCs) align with those of

Chickering and Gamson (1987), Anderson et al. (2001), Berge (1995), and Goodyear et al. (2001).

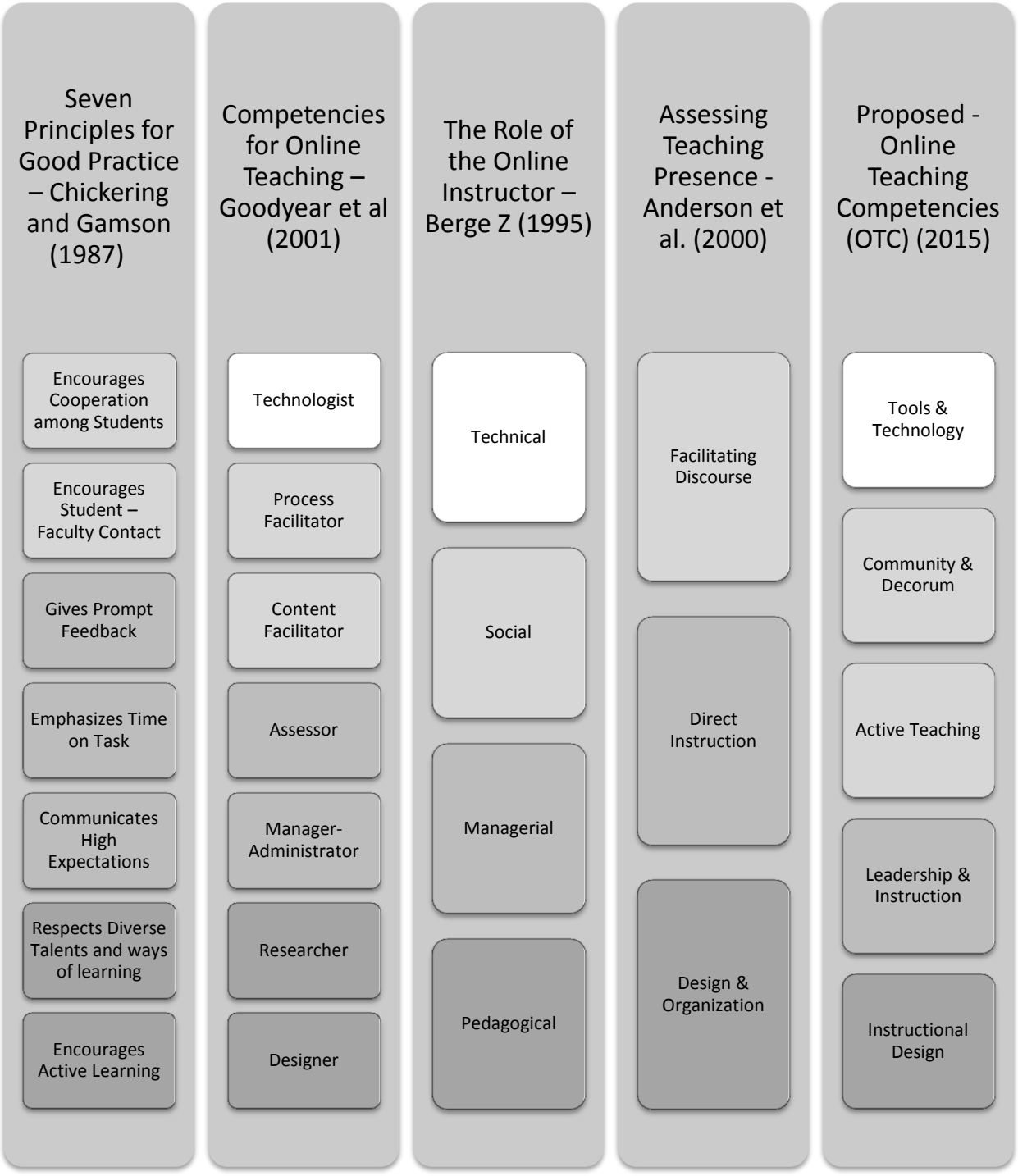

Figure 1. Comparison of Roles/Competencies in Online Instruction

Carraccio et al. (2002) argue that competency performance criteria must clearly define levels of performance in order to facilitate assessment of both progress and achievement.

Consequently, Bloom's revised taxonomy – remembering, understanding, applying, analysing, evaluating and creating (Anderson, Krathwohl & Bloom, 2001)– was used as a framework for grouping the observable behaviours and skills into three performance levels: Emerging, developing and proficient. "When broken down into a hierarchy of skills, apprentices [for example] learn to use machinery by moving from simple to complex exercises. The progressive increase in difficulty of the task is relatively easy to manage" (Hoffman, 1999, p. 283). The emerging level represents the domains of remembering and understanding, identifying what basic knowledge faculty should have, including familiarity with the tasks and the available resources. The developing level represents the domains of applying and analysing, where faculty show proficiency in all emerging elements, plus demonstrate some experience and working knowledge of the role. Finally, the proficient level represents the domains of creating and evaluating, where faculty exhibit significant understanding and expertise within the competency. They not only demonstrate proficiency, but also reflect and innovate within their teaching practice (Anderson et al., 2001).

Bloom's Taxonomy was then applied as a framework to assess and level the combined behaviours and skills. This helped to separate the performance levels and to identify gaps within the general competency. To address the gaps found through the levelling process, new specific competencies were generated for those instances where one of the three levels was missing. For example:

> Tools & technology:
> Emerging - None provided
> Developing - Provide support to learners for course tools and technologies.
> Proficient - Organize tools and technology so that learners can focus on the task at hand.

In the example above, the emerging professor might seek to "locate and identify the various areas providing technical support at their institution." With time and experience, the developing professor would become better equipped to "provide support to learners for course tools and technologies". In turn, the proficient professor not only knows where to seek help, and can provide support to learners, but would also strive to "organize tools and technology so that learners can focus on the task at hand." Working across the levels, each general competency includes six to seven specific competencies that combine to define the features of a highly proficient online teacher.

The second gap identified through the levelling process was within the competency area of leadership and instruction. Once duplications were removed, the leadership and instruction competency area had far fewer specific competencies than the other general competency areas. Although it is acknowledged that leadership and instruction skills can be seen threaded through all the general competency areas, it appeared that leadership and instruction lacked specific guidance necessary for self-reflection. As a result, we turned to the Government of Canada's School of Public Service and the Ontario Teacher's College Standards of Practice in search of a broad definition of leadership that was relevant for academic purposes. The Government of Canada's (2012) learning materials cover key leadership competencies, "leadership skills, abilities and characteristics and behaviors that are needed by managers at all levels to meet the challenges of today and tomorrow" (¶ 1). The four key leadership areas are: Values and ethics, strategic thinking, engagement, and management excellence. The five standards of practice

(professional knowledge, professional practice, leadership in learning communities, ongoing professional development, and commitment to students and student learning) identified by the Ontario College of Teachers (2007) form a framework supporting professional practice for the teaching profession. These two frameworks were used to add the competencies that inform leadership through integrity, motivation and planning.

The resulting framework identifies five online teaching competencies (OTCs), with three levels of proficiency, achieving the first goal of our paper. The framework achieves our second goal when used as a reflective self-guided approach to professional development in online teaching and facilitating. The following is a summary for each of the five general competencies as well as the associated OTC tables, which identify the behaviours and skills that demonstrate proficiency in each competency using a cumulative, levelled approach.

Community & Netiquette

The instructor establishes a positive online learning environment and supportive rapport with learners which contributes to their academic, personal and professional growth. Faculty nurture an inclusive community by designing activities and opportunities for learners to interact, discuss, and collaborate. By following the instructor's example, learners can become active participants in class and contribute positively to the learning community.

Table 1

Community & Netiquette Specific Competencies

Emerging
• Identify and distribute a list of participants. • Establish classroom netiquette by guarding against fear in conferences/discussions. • Recognize whether and when humour, idioms, or sarcasm are helpful to discussions. • Recognize and address poor discussant behavior (e.g., tangents) through individual feedback. • Identify areas of potential conflict (agreement/disagreement) within the course content. • Establish a student centred environment through authentic experiences and encouraging self-awareness. • Respect the privacy of individuals and groups by following privacy of information guidelines.

Developing *Includes features from emerging plus:*

- Encourage students to share their knowledge and expertise with the learning community (e.g., discussion forums, sharing articles, assignments, slides and videos).
- Assess and direct class communication in order to protect learners and prevent disruptive behaviour in a safe learning environment.
- Effectively manage the course communications by providing a good model of expected behavior for all course communication.
- Assist students in resolving conflict through consensus and understanding by teaching communication skills (e.g., feedback, tone/voice in text).
- Help learners take responsibility for their own learning and that of others (e.g., by doing a needs assessment).
- Challenge and support participants, both individually and as a group, to promote authentic engagement.

Proficient *Includes features from developing plus:*

- Encourage students to collaborate with each other through team tasks, projects and discussion.
- Create a safe and supportive online learning environment for the exchange of ideas through effective online communication, interaction and classroom management.
- Encourage and motivate students by assembling authentic learning opportunities in the online environment.
- Promote and support peer learning to produce a meaningful exchange of ideas and learning.
- Demonstrate proficiency in helping students to resolve conflicts that arise in collaborative teamwork (e.g., effective feedback and communication skills).
- Work confidently with group dynamics and manage ambiguity to create engagement in learning for individuals and groups.

Active Teaching

The instructor strives to create an active and participatory learning environment for students in the online classroom. Through regular student interaction, instructors keep learners on task, provide feedback, support group work, modify materials, and assess teaching strategies. Learners experience a greater sense of inclusion and connection both with their instructor, as well as with their peers.

Table 2

Active Teaching Specific Competencies

Emerging

- Ensure transparency and accessibility by making grading visible for students.
- Use introductions, requests for comments (on metacommunication), online office hours and e-mail to promote interaction.
- Promote one-on-one conversations, as well as those in the class discussion, by providing your contact information.
- Provide clear instructions to keep the course participants focussed on the learning tasks and activities.
- Point to relevant learning resources and supplemental materials for course content.
- Minimize lecture style presentation of material to maintain learners' interest.
- Provide advice and information (e.g., technical, subject matter, learning process) as requested by learners.

Developing *Includes features from emerging plus:*

- Use effective assessment and explanatory feedback strategies to confirm understanding and identify misconceptions.
- Encourage, acknowledge, or reinforce student contributions by praising and modeling effective discussant behavior.
- Demonstrate respect, patience and responsiveness for students in all communications.
- Demonstrate caring and concern that students are learning the course content.
- Modify lecture content to increase student participation in the online environment.
- Build in opportunities to practice cognitive skills when introducing new content or new methods.

Proficient *Includes features from developing plus*:

- Provide formative and summative feedback in a prompt, helpful, detailed manner on all relevant assessments and interactions.
- Facilitate meaningful interactivity between all participants by teaching, modelling and promoting effective and responsive communication techniques and style.
- Synchronize and resynchronize teaching strategies (both content and process) by effectively monitoring and reflecting on the teaching and learning experience.
- Evaluate your role as a facilitator in the learning environment in order to use an effective amount of instructor contribution to discussions.
- Structure content available to learners through scaffolding, signposting and layering of materials to effectively support the learning process.

Instructional Design

The online instructor ensures that course curriculum and student learning experiences support course and program learning outcomes. Instructors apply learning methodologies to the flow of learning content, activities, and assessments, as well as consider user experience in the

integration of course technology. Students experience authentic, hands-on learning activities that help them to share and participate, gain skills and knowledge, as well as construct solutions.

Table 3

Instructional Design Specific Competencies

Emerging

- Establish time parameters for learning including: due dates, availability and times for conferences and discussions.
- Locate and recognize existing curriculum and course design methods.
- Establish activities with are consistent with the technology constraints and have a reasonable pacing-time scale.
- Monitor students' adherence to academic integrity & plagiarism policies and procedures.
- Build in time to effectively complete administrative duties (e.g., checking link viability).
- Conduct research on online teaching and learning best practices.

Developing *Includes features from emerging plus:*

- Demonstrate, explain and encourage time management skills so as not to overload learners.
- Compare and update existing curriculum and course design methods using additional resources that encourage students to go deeper into the content of the course.
- Ensure that learning activities and technologies align with the capabilities of learners.
- Demonstrate relevance between activities and the desired learning outcomes using motivational strategies (e.g., agendas, examples, models).
- Encourage and guide students to retrieve resources which are appropriate and relevant.
- Use a variety of assessment methods (e.g., peer assessment, self-reflection) in the assessment of student work.
- Evaluate the effectiveness of online programs and materials by reflect upon information and experiences of online teaching to monitor and improve teaching.

Proficient *Includes features from developing plus*:

- Develop online study guides, techniques and tools optimize learning and organization.
- Implement new online curriculum and instructional design methods which maximize technical efficiency.
- Employ applied learning practices by providing opportunities for authentic hands-on practice.
- Encourage the production and use of student-generated content as appropriate.
- Create learning activities and assessments that allow students construct explanations/solutions which aligned with learning outcomes.
- Develop theory or models of online teaching and learning based on personal reflection and research.

Tools & Technology

Through a conscientious and integrated approach, the online instructor selects and organizes tools and technology for learning. Instructors assess and manage course technology to ensure that tools are productive, easy for learners of varying ability to use, and align with the course learning outcomes. Learners benefit from the ability to focus on learning the knowledge and skills for the course rather than on learning the tool itself.

Table 4

Tools & Technology Specific Competencies

Emerging

- Locate and identify the various areas providing Technical Support at their institution.
- Explain the role of the Learning Management System (LMS) and the institutional policies guiding its use at their institution.
- Recognise the technology, tools and applications current within their industry or field.
- Provide feedback to learners using the tools provided within the LMS (e.g. grades, comments, email).
- Respect intellectual property rights of others by referencing sources and modelling accepted citation protocols.
- Ability to edit and update learning resources for distribution to learners (e.g. checking links)

Developing *Includes features from emerging plus:*

- Provide support to learners for course tools and technologies.
- Demonstrate proficiency and confidence with the technologies used in the online classroom including the chosen learning management system.
- Use multimedia technologies that match the learning activities.
- Use course analytics in order to track learner progress (e.g. content accessed or number times online).
- Assess and select new methods of representing feedback in the online environment.
- Recognize how the use of different media influences different types of behaviour
- Assess what tools are most effective for achieving the learning outcomes.

Proficient *Includes features from developing plus:*

- Organize tools and technology so that learners can focus on the task at hand.
- Facilitate both asynchronous and synchronous online learning environments.
- Monitor and reflect upon course tools to identify opportunities for improvement.
- Integrate the use of technology to create meaning and relevance for students.
- Interpret course analytics in order to identify course trends and at risk learners.
- Implement appropriate online strategies to manage workload (e.g., marking, facilitation, feedback).
- Design and develop learning resources which use technology to effectively create relevance and increase engagement.

Leadership & Instruction

The essential role of the online instructor is to act as a leader and facilitator. Their role is to guide students, focus discussions, provide examples, and model behaviours that demonstrate critical concepts, principles, and skills. Such practices help learners navigate course activities and learning experiences both within the course as well as in their program.

Table 5

Leadership & Instruction Specific Competencies

Emerging • Recognizes the importance of the contributions of their peers and learners to their success. • Focus the discussion, questions and reflections on specific concepts within the course content. • Maintain a non-authoritarian, democratic and inclusive style in the classroom. • Ensure authenticity of student work through knowledge of plagiarism policies and identification tools. • Identify and locate institutional initiatives, policies or guidelines related to professional practice. • Refer students to appropriate sources of support (e.g., tutoring, academic services, counselling). • Interface effectively with the institution's systems and processes (e.g., enrollment, assessment, evaluation, information).
Developing *Includes features from emerging plus:* • Encourage excellence in the work of learners and peers through encouragement and support. • Emphasize and clarify the unifying threads in discussions to highlight important concepts. • Uphold a positive and constructive attitude in the face of change, setbacks or stressful situations. • Apply rules and procedures in a reliable, unbiased, accurate manner to ensure learners recognize fairness in the classroom. • Seek out and include knowledge from diverse sources (e.g., textbook, articles, internet, personal experiences, guest speakers / experts, student experience and knowledge).

Proficient *Includes features from developing plus*:

- Plan and maintain a system of procedural leadership throughout the learning experience.
- Design learning material which is relevant to the overall goals and outcomes of the course.
- Embrace diversity of learners, and foster an environment of respect and equity in the classroom.
- Manage workload and stress so as to minimize the any negative impact of work on life and vice-versa.
- Elicit trust by modeling and rewarding effective behaviours (e.g., following through on commitments).
- Demonstrate openness and commitment to continuous learning by actively seeking opportunities to learn and develop professionally and personally.

Discussion

Using existing literature, research and frameworks and Ontario college examples, we have completed a literature review that supports professional practice in the online teaching environment. The identification of five competency areas from the existing literature is helpful in creating a framework for individuals and organizations that is supported by literature. The summary table developed from the literature review provides a cumulative, levelled approach to identifying the behaviours and skills needed by online teachers to demonstrate proficiency in each competency area. The resulting online teaching competency (OTC) matrix can be used by individuals, teams or institutions to promote the individual reflective practice needed for the assessment of competency in the online learning environment.

Self-Assessment Tool

Once competency assessment is possible, the applications are numerous. First, as a tool for reflective practice, the table may be used by individuals to support self-awareness, and to direct effort towards improving their teaching practice. It may be that relatively minor changes in approach, technique or strategy can move an individual's online teaching practice from emerging to developing. For example, a teacher new to the online environment may find through reflection on the active teaching competencies that, although they have tried to limit lecture material (emerging), they could begin to modify the content to increase student participation and online engagement (developing). The OTC matrix allows faculty to reflect on their skills and behaviours in practice and to evaluate themselves afterward as a reflection on practice. Simply by identifying and reflecting on the competency levels, it is possible that faculty may decide to change their daily teaching practice by choosing technology, applying class decorum, responsiveness, instructional design and/or course leadership.

Portfolio Development Guidelines

Secondly, individual professionals may use the OTC matrix to demonstrate their professional abilities and expertise by building a professional portfolio around the competency areas. Many institutions encourage the development of professional portfolios or individual

learning plans and the framework of levelled competencies can be a powerful tool in arranging the documentation of professional practice. Individuals or teams may also use the tables to identify areas for improvement and request professional development or training to increase a set of knowledge, behaviours and skills. For example, during online curriculum development, faculty involved in course design and development will need to identify strengths and gaps, in order to be effective. If a knowledge or skill gap exists, the faculty can focus on developing the skills through self-directed research or other professional learning opportunities. Alternatively, additional resources can be sought to bridge the knowledge or skill gap, such as employing a learning designer for online curriculum development.

Professional Development Learning Outcomes

Finally, the OTC matrix may be used as a basis for the assessment and target of professional development activities. For institutions or teams involved in planning or implementing professional development at their institution, these tables provide a framework to assess the needs of faculty, a structure for identifying learning outcomes, for designing learning activities and a measure for evaluating the success of professional development offerings.

Future Direction

This literature review sought to define steps one and two of the competency-based education development process, including first, identifying competencies, and second, determining competency components and performance levels. The next steps, as per Carraccio et al. (2002), should lead, third, to competency evaluation and, fourth, to an overall assessment of the process. With these next two steps in mind, it is important to evaluate the matrix as a competency measurement tool and to ensure that this evaluation process is useful for online educators.

Research on the effectiveness of the OTC matrix as a pre and post intervention measure would help to validate its usefulness as a tool for educators. Potential uses for the tool include designing specific professional development opportunities, which would demonstrate the use of the OTC matrix as it applies to individuals, teams or institutions. Competency results and reflection could also be used as a pre-intervention measurement tool. Using the OTC matrix as a pre-intervention measurement tool would ensure that development opportunities target specific areas for individual or team improvement. The tool could then be used as a post intervention measure of the impact of the professional development session.

The next goal is to create a series of self-reflective questions that assist faculty to identify their current practices within the matrix. The resulting outputs would provide feedback on their assessed competency level, and indicate areas in which to seek additional expertise, exploration or development. Developing and designing a measurement tool for self-assessment using the OTC matrix as a framework will allow us to assess the usability and usefulness of the matrix for online teachers.

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